

Appl. No. 09/730,877
Amdt. Dated August 13, 2004
Reply to Office action of May 19, 2004
Attorney Docket No. P08915-US2
EUS/J/P/04-3189

Amendments to the Claims:

This listing of Claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A method for handing over of a connection from a first serving GPRS support node (SGSN) to a second SGSN in response to an inter SGSN routing area update, the method comprising the steps of:

establishing a temporary leg between the first SGSN and the second SGSN;

responsive to the connection entering a standby state, operating the first SGSN as a temporary anchor in response to the inter SGSN routing area update
finishing up ongoing transactions prior to moving context from the first SGSN to the second SGSN; and

redirecting packet transmission and control signaling to and from the second SGSN via the first SGSN via the temporary leg while the first SGSN is operating as the temporary anchor.

2. (Original) The method of claim 1, further comprising the step of initiating the inter SGSN routing area update in response to a mobile station moving from a first SGSN service area associated with the first SGSN to a second SGSN service area associated with the second SGSN.

3. (Canceled)

4. (Currently Amended) The method of claim 2 [[3]] wherein the step of redirecting further comprises the step of redirecting the signaling traffic from the first SGSN to the second SGSN via the temporary leg.

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5. (Currently Amended) The method of claim 2 [[3]], wherein the step of establishing the temporary leg comprises the step of establishing a Gb channel between the first SGSN and the second SGSN.

6. (Currently Amended) The method of claim 2 [[3]], further comprising the step of transferring connection control from the first SGSN to the second SGSN in response to the connection being maintained by the first SGSN entering a standby state.

7. (Original) The method of claim 6, wherein the step of transferring further comprises the step of performing the inter SGSN routing area update between a Gateway GPRS support node (GGSN) and the second SGSN.

8. (Original) The method of claim 6, wherein the step of transferring connection control is performed without interrupting layer 3 procedures and data transmission.

9. (Original) The method of claim 6, further comprising the step of releasing the temporary leg in response to completion of the transfer of connection control from the first SGSN to the second SGSN.

10. (Original) The method of claim 9, further comprising the step of communicating subsequent signaling traffic directly between a Gateway GPRS support node (GGSN) and the second SGSN without redirecting the subsequent signaling traffic via the first SGSN, the subsequent signaling traffic occurring after the release of the temporary leg.

11. (Original) The method of claim 6, further comprising the steps of:

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allowing subscriber charging transactions to be completed towards a billing gateway before performing the step of transferring connection control to the second SGSN; and

resuming subscriber charging towards the billing gateway in response to completion of the transfer of connection control to the second SGSN.

12. (Currently Amended) A system for handing over of a connection between at least two GPRS nodes in response to an inter SGSN routing area update, the system comprising:

a first SGSN operating as a temporary anchor in response to the inter SGSN routing area update, wherein the first SGSN, in response to the connection entering a standby state, allows ongoing transactions to finish up prior to moving context from the first SGSN; and

a second SGSN in communication with the first SGSN, the first SGSN redirecting packet transmission and control signaling ~~traffic to and from~~ between the second SGSN and ~~[[via]]~~ the first SGSN via a temporary leg while the first SGSN is operating as the temporary anchor.

13. (Original) The system according to claim 12, further comprising a mobile station operating in a first SGSN service area associated with the first SGSN, the inter SGSN routing area update being initiated upon the mobile station moving from the first SGSN service area to a second SGSN service area associated with the second SGSN.

14. (Canceled)

15. (Currently Amended) The system of claim 13 ~~[[14]]~~, wherein the redirecting further includes the step of redirecting the signaling traffic from the first SGSN to the second SGSN via the temporary leg.

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16. (Currently Amended) The system of claim 13 [[14]], wherein [[the]] establishing the temporary leg comprises establishing a Gb channel between the first SGSN and the second SGSN.

17. (Currently Amended) The system of claim 13 [[14]], further including transferring connection control from the first SGSN to the second SGSN in response to the connection being maintained by the first SGSN entering a standby state.

18. (Original) The system of claim 17, wherein the transferring further includes performing the inter SGSN routing area update between a Gateway GPRS support node (GGSN) and the second SGSN.

19. (Original) The system of claim 17, wherein transferring connection control is performed without interrupting layer 3 procedures and data transmission.

20. (Original) The system of claim 17, further comprising releasing the temporary leg in response to completion of the transfer of connection control from the first SGSN to the second SGSN.

21. (Original) The system of claim 20, further comprising communicating subsequent signaling traffic directly between a Gateway GPRS support node (GGSN) and the second SGSN without redirecting the subsequent signaling traffic via the first SGSN, the subsequent signaling traffic occurring after the release of the temporary leg.

22. (Currently Amended) The system of claim 21 [[6]], further comprising:

allowing subscriber charging transactions to be completed towards a billing gateway before performing the step of transferring connection control to the second SGSN; and

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resuming subscriber charging towards the billing gateway in response to completion of the transfer of connection control to the second SGSN.

23. (Currently Amended) A method for handing over of a connection between GPRS support nodes (SGSN), the method comprising the steps of:

receiving a routing update;

forming a temporary leg between an old and a new SGSN after receiving the routing update; and

responsive to the connection entering a standby state, operating the old SGSN as a temporary anchor in response to an inter-SGSN routing area update;

finishing up ongoing transactions prior to moving context from the old SGSN to the new SGSN; and

redirecting packet transmission and control signaling traffic across the temporary leg.

24. (Original) The method according to claim 23, further comprising:
releasing the temporary leg; and
communicating subsequent payload traffic between a GPRS and the new SGSN.

25. (Original) The method according to claim 23, wherein the old SGSN forms a temporary anchor.

26. (Original) The method according to claim 23, further comprising:
communicating a context forward message from the old SGSN to the new SGSN;
receiving a context forward acknowledgment from the new SGSN; and
releasing the temporary leg after receiving the context forward acknowledgment.